ZEISS

West Germany

Carl Zeiss
D-7082 Oberkochen

Universal S 3 Stand
Universal S 3B Stand

Operating instructions

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Note

- The 6- to 10-digit numbers are order numbers of instruments or parts, e. g. 304903-9901
- These instruments are not intended for use in explosion-risk areas.
- Changes and repairs of electro-medical instruments may only be carried out by the manufacturer or his authorized agents.
- Subject to technical amendment.

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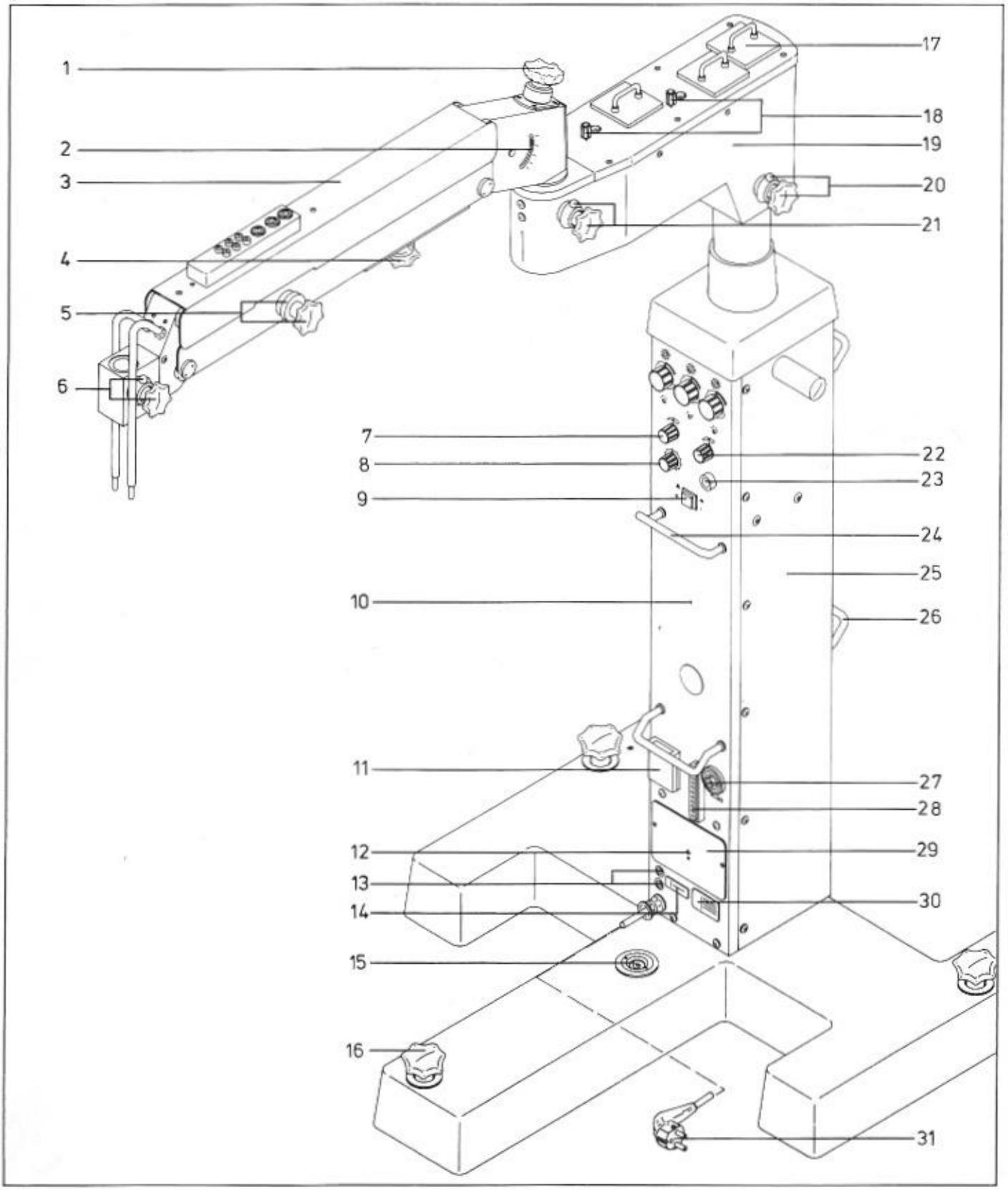
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Note
The stand described in this manual is the Universal S 3B, an upgraded version of the Universal S 3 Stand.
The S 3B permits connection and operation of a bipolar coagulator, in all other respects the two types of stand are identical.

Controls

1 Star knob for counterbalancing suspension arm (3). Weight compensation from 3 to 18 kg, indicated by scale (2).

2 Scale for indication of counterbalance set.

3 Suspension arm.

4 Safety slider. Before surgery, set working distance between suspension arm (3) and the operating field with this slider.

5 Star knob for locking arm (3) at any required height. The ring on this knob is used for adjusting the resistance of the vertical motion.

6 Star knob for clamping the OPMI pivot. The round knob serves to adjust the motion resistance of the OPMI pivot.

7 Focusing speed control.

8 Control for bipolar coagulator. For further details on the use of this unit, please see the separate manual from Erbe, Elektromedizin, Tübingen.

9 ON/OFF main switch with indicator light.

10 Screw for setting the volume of the acoustic signal when working with the bipolar coagulator.

11 Mains outlet.

12 Voltage indicator disk. See "Note" on page 9.

13 Mains fuses. These become accessible when the protective caps are unscrewed. The type of fuse necessary depends on the voltage supplied and is shown on plate (14).

14 Plate specifying fuse types for the various mains voltages.

15 Level to check whether the stand is level. Adjustments are made with the three threaded spindles (16).

16 Spindles (3×) for levelling the stand and holding it in place.

17 Spare lamp module for rapid lamp change. For lamp change see page 9.

18 Controls for swinging in/out integrated UV filter GG-475.

19 Carrier arm.

20 Star knob for clamping carrier arm (19). The round knob with pin serves to adjust the rotation resistance of the carrier arm.

21 Star knob for clamping suspension arm (3). The round knob with pin serves to adjust the rotation resistance of the suspension arm.

22 Zoom speed control.

23 Coaxial connector for the bipolar coagulator. An acoustic signal is given for as long as the coagulator is in use. The volume of this signal can be adjusted with screw (10).

24 Bracket (2×) for hanging up the power cable.

25 Column. If requested by the surgeon, the column can be mounted rotated through 180°. The carrier arm (19) must not be rotated for safety reasons (danger of tipping).

26 Bracket (2×) for hanging up the foot control panel.

27 Receptacle for the connection of a separate foot switch for a bipolar coagulator.

28 Connector for additional foot or hand control panel.

29 Cover plate. The fuses for the equipment are behind this plate. The specifications of the fuses to be used are shown on the back of the cover plate.

30 Rating plate.

31 Power cable.

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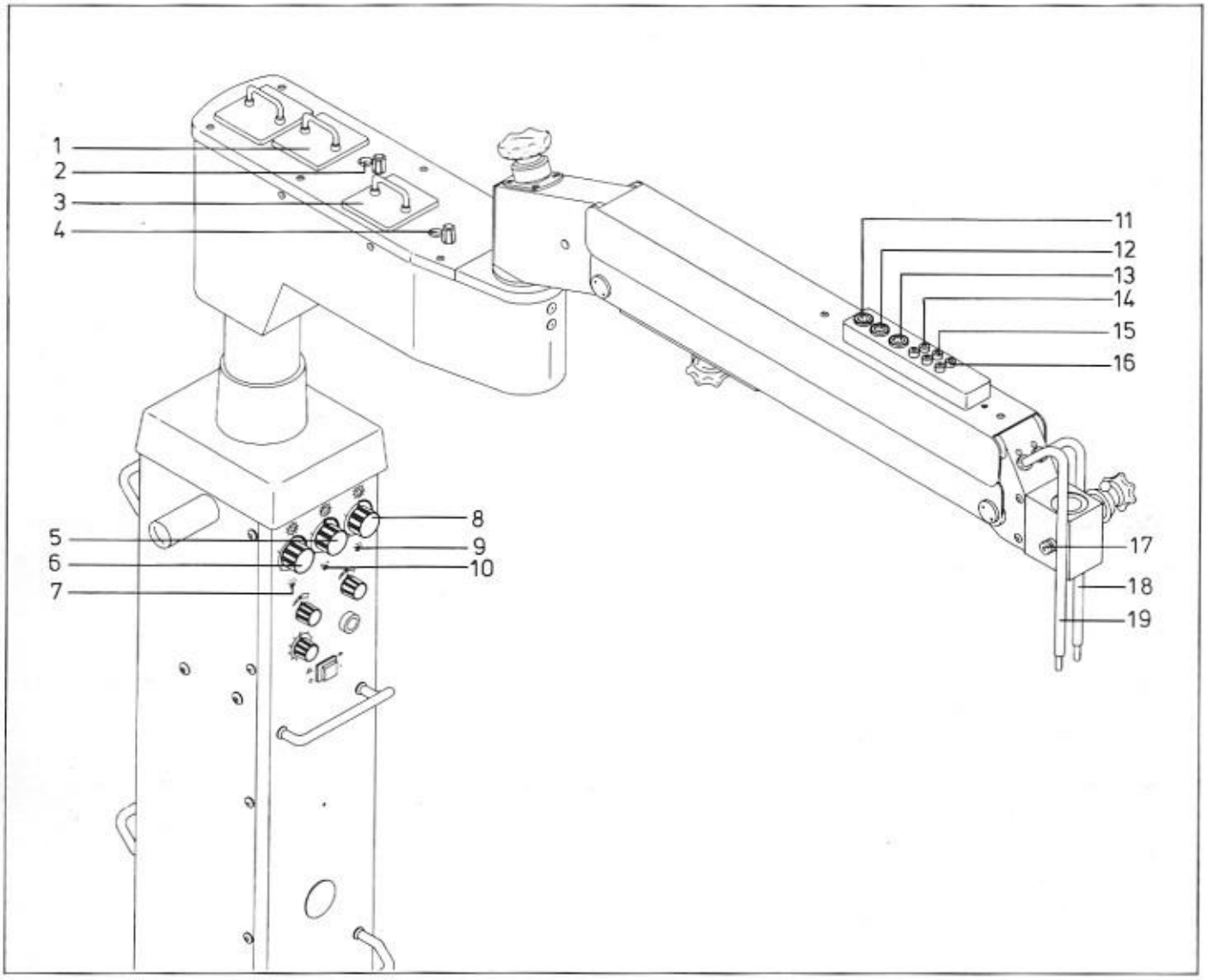

1 Lamp slide-in module in carrier arm marked with red dot. This module supplies fiber optic cable (18). Brightness is controlled with knob (6). Selector (7) must be in position "F ☼ " or " ⊿ F" for fiber optic illumination.

2 Thermal cutout for module (1). If the lamp slide-in module overheats the power supply is interrupted. Eliminate the cause of overheating before pressing the thermal cutout button in again.

3 Lamp slide-in module in carrier arm marked with blue dot. This module supplies fiber optic cable (19). Brightness is controlled with knob (8). Selector (9) must be in position "F ☼ " or " ⊿ F" for fiber optic illumination.

4 Thermal cutout for module (3). See point 2.

5 Knob marked with yellow dot. This rotary knob serves to adjust the output voltage for the pair of yellow jacks (15).

6 Knob marked with red dot. This knob controls the brightness of the fiber optic illumination or halogen bulb illumination depending on the position of selector (7).

7 Illumination-type selector for setting fiber optic or halogen bulb illumination. Use screwdriver to set illumination required.
Position F ☼: fiber optic illumination via cable (18) (red dot).
Position ⊿ F: fiber optic illumination is switched on/off with a hand or foot control panel.
Position H ☼: halogen bulb illumination via the red pair of jacks (16).
Position ⊿ H: halogen bulb illumination is switched on/off with a hand or foot control panel.

8 Knob marked with blue dot. This knob controls the brightness of the fiber optic illumination or halogen bulb illumination depending on the position of selector (9).

9 Illumination-type selector for setting fiber optic or halogen bulb illumination. Use screwdriver to set illumination required.
Position F ☼: fiber optic illumination via cable (19) (blue dot).
Position ⊿ F: fiber optic illumination is switched on/off with a hand or foot control panel.
Position H ☼: halogen bulb illumination via the blue pair of jacks (14).
Position ⊿ H: halogen bulb illumination is switched on/off with a hand or foot control panel.

10 Halogen bulb illumination control. Use screwdriver to set mode desired.
Position H ☼: halogen bulb illumination via the yellow pair of jacks (15).
Position ⊿ H: halogen bulb illumination is switched on/off with a hand or foot control panel.

11 Outlet for surgical slit illuminator or focusing coupling.

12 Outlet for X-Y coupling with automatic re-centering.

13 Outlet for operating microscope or focusing coupling.

Notes on (14), (15) and (16)
The output voltages of these pairs of jacks can be factory-set to 0–6 V/50 W or 0–12 V/100 W on request. Any subsequent modification must be made by our service technicians. These jacks also permit connection of outside equipment operating on alternating current.

14 Pair of blue jacks. Knob (8) controls the output voltage of this pair of jacks. Selector (9) must be in position "H ☼" or "⊿ H".

15 Pair of yellow jacks. Knob (5) controls the output voltage of this pair of jacks.

16 Pair of red jacks. Knob (6) controls the output voltage of this pair of jacks. Selector (7) must be in position "H ☼" or "⊿ H".

17 Holder pin. This pin must audibly engage in the groove of the microscope pivot or the focusing coupling.

18 Fiber optic cable on suspension arm marked with red dot. Its light source is module (1). Brightness is controlled with knob (6). Selector (7) must be in position "F ☼" or "⊿ F" for fiber optic illumination.

19 Fiber optic cable on suspension arm marked with blue dot. Its light source is module (3). Brightness is controlled with knob (8). Selector (9) must be in position "F ☼" or "⊿ F" for fiber optic illumination.

Note

The stand is adjusted in the factory to the customer's voltage. However, this should be checked in any case by reading off the voltage set at window (23).

If the voltages do not correspond the unit must be reset by one of our service technicians and fuse (24) changed, if necessary.

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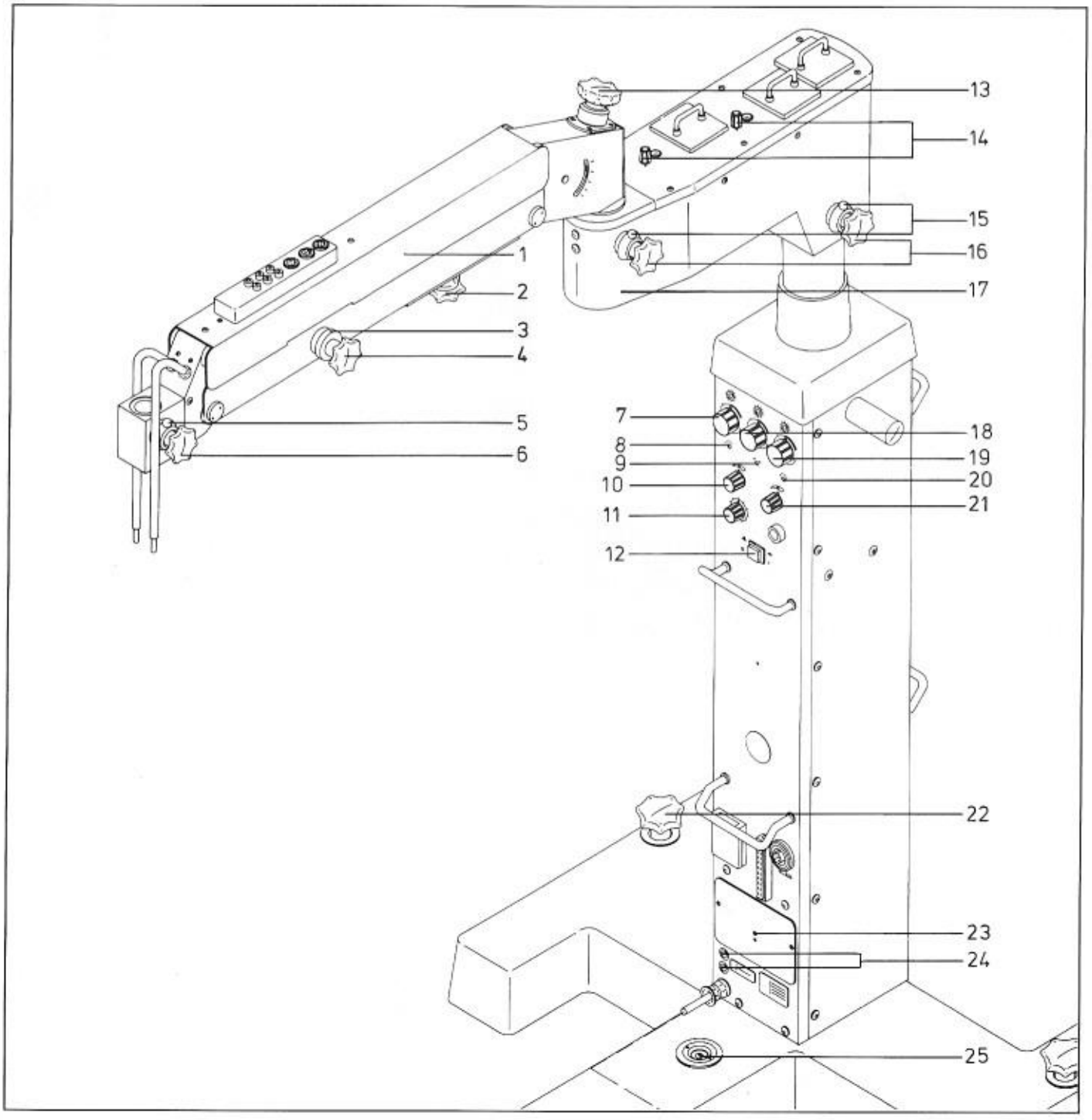

Installation

- Connect OPMI equipment and accessories needed. For this, see operating manual of your operation microscope.
- Bring stand into location required. Lock in position with the three spindles (22). Check (25) whether stand is level.
- Slacken star knob (4) and bring suspension arm (vertical motion) into equilibrium with knob (13).
- Slacken star knob (2) and bring OPMI into the lowest working position. Push safety slider towards the microscope and retighten star knob (2).
  Check: raise OPMI and lower onto the lowest working position set.
- Adjust resistance of the vertical motion with ring (3) (only with equipment over 14 kg). For this, slacken grub screw in ring (3) and turn ring into the + direction until the motion resistance desired has been set. Retighten grub screw.
- If necessary, set motion resistance of the OPMI pivot, suspension arm (1) and of carrier arm (17) with round knobs (5) and (15). Star knobs (6) and (16) are only used for locking.
- Make power connection.

Switching on

- Switch on main switch (12).
- Set selector (8), (9) or (20). Key to symbols:
  Position F ☼: fiber optic illumination via fiber optic cable (blue or red dot).
  Position ⊿F: fiber optic illumination is switched on/off with a hand or foot control panel.
  Position H ☼: halogen bulb illumination via the pair of blue, yellow or red jacks.
  Position ⊿H: halogen bulb illumination is switched on/off with a hand or foot control panel.
- Only with fiber optic illumination: swing in filter with control (14).

Operation

- Bring OPMI into working position.
- Switch on and adjust illumination with (7), (18) and (19) – avoid overloading:
  (7) red knob for fiber optic bundle marked red or for illumination via the pair of red jacks;
  (18) yellow knob for illumination through the pair of yellow jacks;
  (19) blue knob for fiber optic bundle marked blue or for illumination via the pair of blue jacks
- Set focusing speed with knob (10)
- Set zoom speed with knob (21)
- Set power for bipolar coagulator with (11)

Lamp change (Fig. 4)

If a halogen lamp fails during operation, the slide-in module with the defective lamp should be changed for the spare module (3), which is equipped with a new halogen lamp.
For changing the lamp proceed as follows:

- Switch off instrument, pull out mains plug and allow lamp to cool.
- Pull out slide-in module with defective halogen bulb and remove lamp. When removing the lamp hold the socket (1). Do not pull the cable.
- Insert new halogen lamp. Note that centring lug (2) engages the recess provided for it. Replace slide-in module and put stand back into operation.

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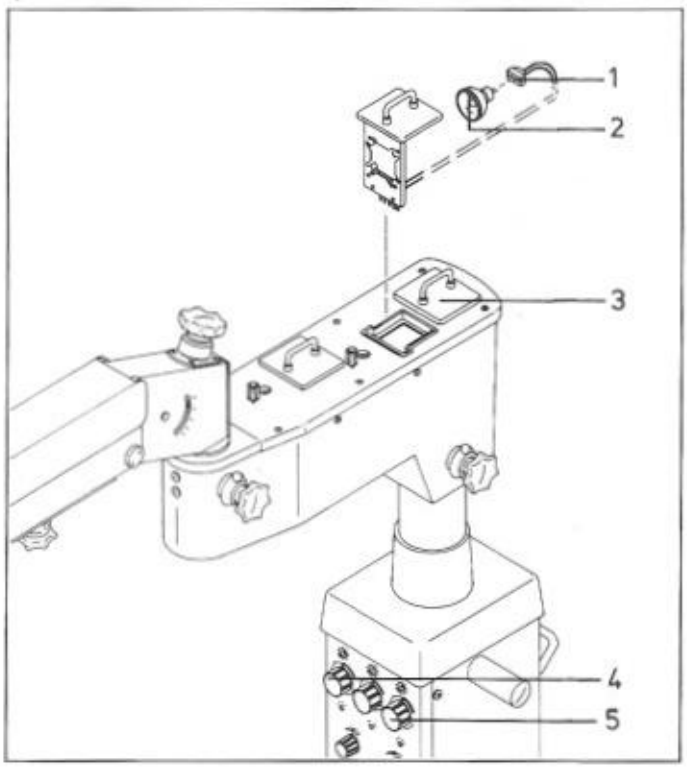

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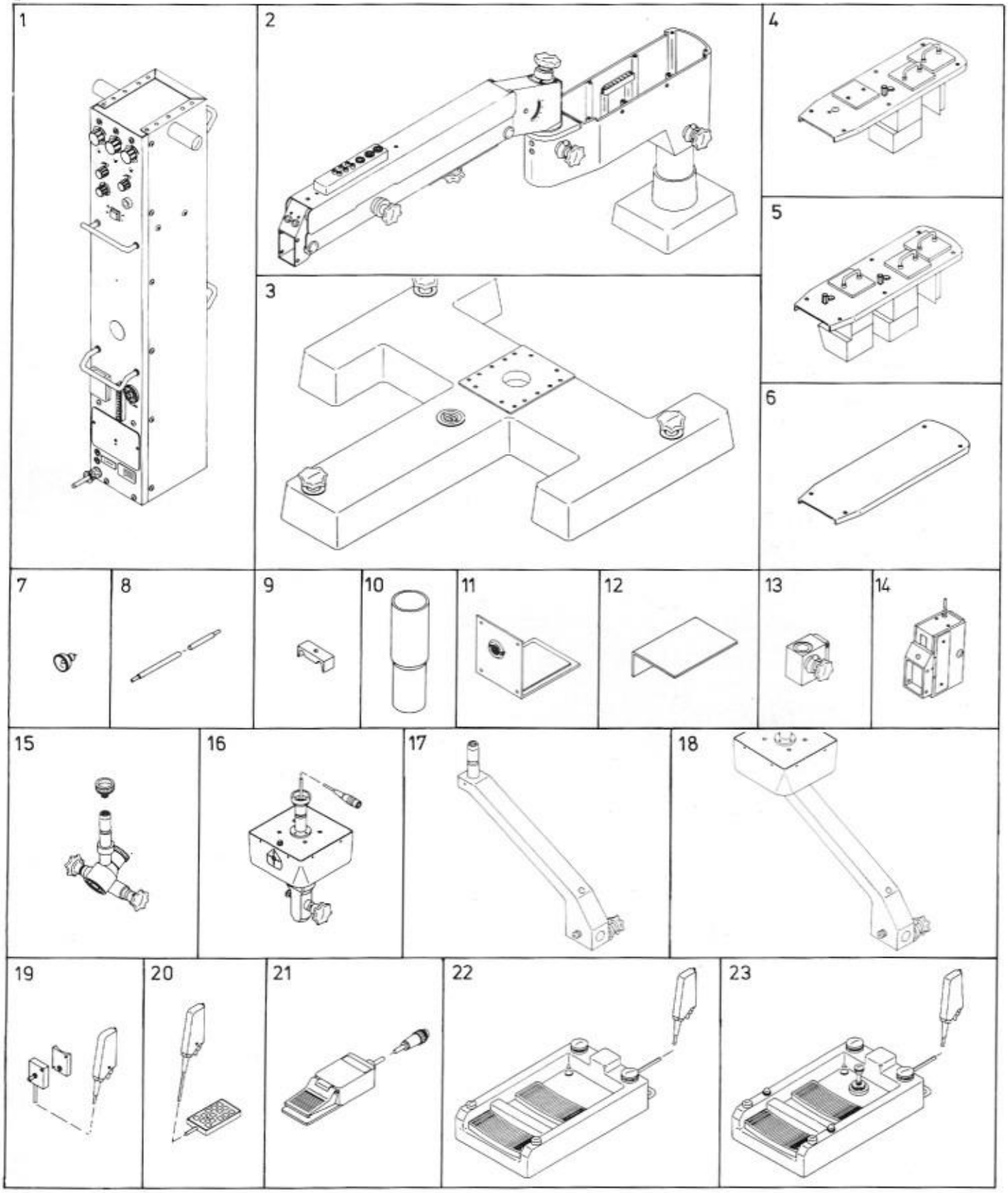

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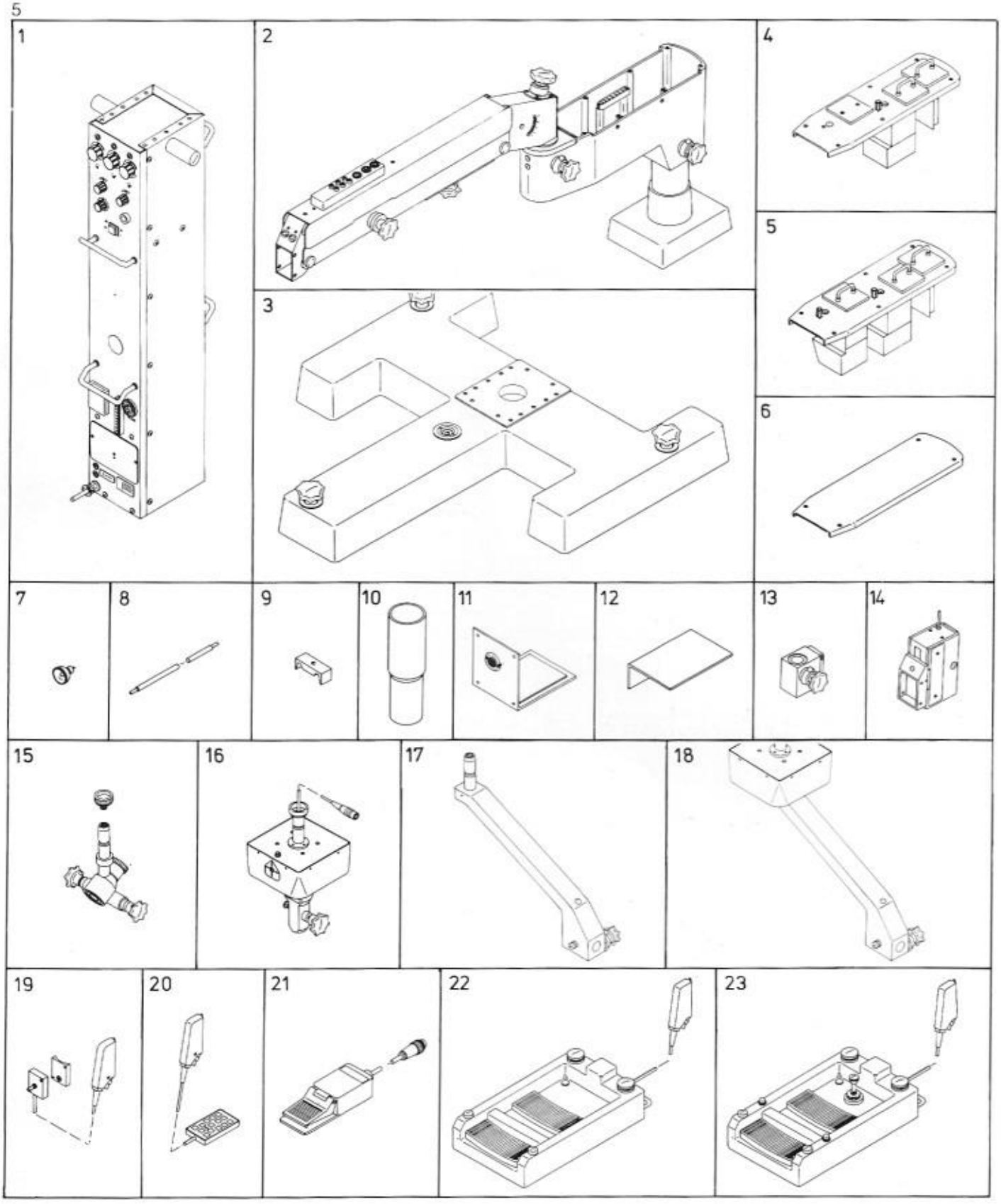

	Order No.
Parts of the stand	
1 Power column S 3B	304903-9901
or	
power column S 3	304913-9901
2 Articulated suspension arm 30	304926
3 Base	304932-9901
4 Mono F illumination	304951
or	
5 Dual F illumination	304952
or	
6 Lid for F lamp compartment	304951-9030
7 Halogen bulb 12 V/100 W	380079-9040
8 FC cable 2 m	303481-8103
or	
FC cable 2.2 m	303481-8104
Supplementary parts	
9 Magnetic holder for FC cable	304951-9031
10 Column extension	304921-9130
11 Flash supply	304970
12 Tray	304971
Couplings	
13 Coupling 2	304960
14 Focusing coupling	304962
15 Coupling K 120/76 with gear adjustment	305336
16 X-Y coupling	305343
17 Cardan coupling	304964
18 X-Y Cardan coupling	304965
Note: items 17 and 18 are only suitable for operation microscopes from our OPMI 6 "D" series (dual observation).	
Hand and foot control panels	
19 Four-way focusing/zoom switch	304998
20 Hand panel with 14 functions	304995-9901
21 Foot switch EX for bipolar coagulator	304996
22 Foot panel with 8 functions	304981
23 Foot panel with 14 functions	304990-9902
Spares	
1 set of fuses for 220 V	304988
1 set of fuses for 110 V	304989
1 set of fuses for 120 V (UL)	304987

Stand height	1685 mm
with extension	1825 mm
Base	
Width	820 mm
Depth	870 mm
Carrier arm	
Length	400 mm
Swing angle	210°
Suspension arm	
Length	825 mm
Travel	722 mm
Swing angle	285°
Weight compensation	3–18 kg
Total weight	98 kg
with stabilizers	152 kg

Electrical versions
Acc. to DIN IEC 601 Part 1/VDE 0750 Part 1/05/82
SEV, UL 544

Power requirements
100–110–120–127–220–240 V, 50–60 Hz (cps)
or 120 V, 50–60 Hz (cps)

Max. power consumption
without accessory connected to integrated power outlet:

Stand S 3	600 VA
Stand S 3B	700 VA

Max. power consumption using integrated power outlet:

Stand S 3	1500 VA
Stand S 3B	1600 VA

Integrated fiber optic illumination
On request
12 V/100 W halogen reflector lamps on quick-change slide-in modules for 1 or 2 fiber optic cables, UV filter (green filter on request)
1 spare lamp module

Outlets
1×6 V/50 W, convertible to 12 V/100 W, adjustable;
2×12 V/100 W adjustable, each can be individually switched over to integrated fiber optic illumination, X-Y coupling, surgical slit illuminator or motorized focusing coupling.
Adjustable zoom and focusing speeds, power outlet, bipolar coagulator.

Bipolar coagulator

Power consumption	50 W at 75 Ohm
Rated frequency	600–1000 kHz